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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------------|-------------|----------------------|---------------------|------------------|
| 10/717,589 | 11/21/2003 | Hidemasa Sawada | 117827 | 9393 |
| 25944 | 7590 | 12/12/2005 | EXAMINER | |
| OLIFF & BERRIDGE, PLC | | | SHAH, MANISH S | |
| P.O. BOX 19928 | | | ART UNIT | |
| ALEXANDRIA, VA 22320 | | | PAPER NUMBER | |

2853

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/717,589 | Applicant(s) SAWADA, HIDEMASA | |
| | Examiner Manish S. Shah | Art Unit 2853 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>11/23/03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claim 7 is objected to because of the following informalities: In claim 7, applicant claiming that "the pigment which has an average of volume particle size of 10 to 100 nm". However in the applicant's specification on page 7, line: 7-8, applicant discloses the average volumetric particle size of pigment is between 100 nm to 5 micrometer, 10 to 100 nm is the size of the resin micro particles (line: 22-24). For Examining purposes, the Examiner is considering the pigment particle size 100 nm to 5 micrometer, which supported in the specification. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 & 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Yatake et al. (# US 5746818).

Yatake et al. discloses an image recording method (column: 13, line: 5-15) including a pretreatment step of causing a pretreatment liquid containing propylene glycol monopropyl ether (column: 12, line: 35-45; column: 5, line: 18-26) and a cationic

Art Unit: 2853

substance to adhere on a medium (column: 11, line: 40-65); and a recording step of forming after the pretreatment step, an image on the recording medium by using an aqueous pigment ink containing a pigment (column: 3, line: 10-65) and resin microplarticles (water soluble resin) (column: 10, line: 19-45) having a negative surface charge (column: 13, line: 60-67; column: 14, line: 1-10). They also disclose that the pretreatment liquid contains same water soluble solvent as the ink composition, which contains dipropylene glycol monopropyl ether in an amount of 5 to 60% by weight (column: 5, line: 25-27) and cationic substance in an amount of 1 to 10% by weight (column: 12, line: 13-17). They also disclose that the pigment contains in an amount of 2 to 15% (column: 3, line: 60-62), and the pigment, which has an average of volume particle size of 10 to 300 nm (column: 23, line: 20-23).

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 & 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Nitzan et al. (# US 2002/0192381 A1).

Nitzan et al. discloses an image recording method ([0021]-[0026]) including a pretreatment step of causing a pretreatment liquid containing propylene glycol monopropyl ether ([0056]) and a cationic substance to adhere on a medium ([0052]-[0053]); and a recording step of forming after the pretreatment step, an image on the recording medium by using an aqueous pigment ink containing a pigment and resin

microplarticles having a negative surface charge ([0008]-[0009], [0058]). They also disclose that the pretreatment liquid contains dipropylene glycol monopropyl ether in an amount of 0.1 to 15% by weight ([0056]) and cationic substance in an amount of 0.1 to 30% by weight ([0053]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yatake (# US 5746818) in view of Koitabashi et al. (# US 6582047).

Yatake discloses all the limitation of the image recording method except that the medium is a cloth.

Koitabashi et al. (047) teaches that the to get the excellent ink absorption printing medium in image forming method, the print medium is selected from paper, synthetic paper, cloth and non-woven cloth (column: 6, line: 1-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing medium of Kubota et al. by the aforementioned teaching of Koitabashi et al. (047) in order to excellent ink absorption printing medium, which gives high quality printed image.

5. Claims 1, 3-4 & 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota et al. (# US 6086197) in view of Yatake (# US 5746818).

Kubota et al. discloses an image recording method (see Abstract) including a pretreatment step of causing a pretreatment liquid (reaction solution) containing dipropylene glycol (column: 3, line: 10-25; column: 5, line: 20-45) and a cationic substance to adhere on a medium (column: 3, line: 60-67); and a recording step of forming after the pretreatment step, an image on the recording medium by using an aqueous pigment ink containing a pigment (column: 6, line: 55-67; column: 7, line: 1-20) and resin microparticles, wherein resin particle is resin emulsion (column: 7, line: 19-45) having a negative surface charge. They also disclose that the pretreatment liquid contains propylene glycol in an amount of 2 to 20% by weight (column: 5, line: 25-27) and cationic substance in an amount of 5 to 25% by weight (column: 4, line: 1-10). They also disclose that the pigment contains in an amount of 2 to 15% (column: 7, line: 15-25), and the resin emulsion has an average of volume particle size of 5 to 100 nm (column: 7, line: 35-40).

Kubota et al. differs from the claim of the present invention is that the pretreatment liquid contains dipropylene glycol monopropyl ether, and a pigment has an average of volume particle size of 100 to 5 micrometer.

Yatake teaches that to improve the penetration of the ink and prevent the clogging of the nozzle, the pretreatment liquid contains same water soluble solvent as the ink composition, which contains dipropylene glycol monopropyl ether in the amount

of 5 to 10% by weight (column: 5, line: 1-26; column: 12, line: 35-45), and the pigment has an average of volume particle size of 10 to 300 nm (column: 23, line: 20-23).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the pretreatment liquid of Kubota et al. by the aforementioned teaching of Yatake in order to improve the penetration of the ink and prevent the clogging of the nozzle, which gives high quality printed image.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota et al. (# US 6086197) in view of Yatake (# US 5746818) as applied to claims 1, 3-4 & 6-7 above, and further in view of Koitabashi et al. (# US 6582047).

Kubota et al. and Yatake discloses all the limitation of the image recording method except that the medium is a cloth.

Koitabashi et al. (047) teaches that the to get the excellent ink absorption printing medium in image forming method, the print medium is selected from paper, synthetic paper, cloth and non-woven cloth (column: 6, line: 1-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing medium of Kubota et al. by the aforementioned teaching of Koitabashi et al. (047) in order to excellent ink absorption printing medium, which gives high quality printed image.

7. Claims 2 & 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koitabashi et al. (# US 2002/0044185 A1) in view of Yatake (# US 5746818).

Koitabashi et al. discloses an image recording method (column: 13, line: 5-15) including a pretreatment step of causing a pretreatment liquid containing propylene glycol ([0114]) and a cationic substance to adhere on a medium ([0110]); and a black recording step of forming after the pretreatment step, an image on the recording medium by using a black aqueous pigment ink containing a pigment ([0115], [0053]-[0090]) and resin microparticles (water soluble resin) (see Examples) having a negative surface charge (figure: 1-6); and a color recording step of forming after a specific amount of time has elapsed since the execution of the black recording step, an image on the medium by using a colored aqueous pigment ink containing a pigment other than the black pigment and resin microparticles having a negative charge ([0115]-[0125]). They also disclose that the pretreatment liquid contains propylene glycol in an amount of 5 to 40% by weight ([0114]) and cationic substance in an amount of 0.01 to 10% by weight ([0110]). They also disclose that the pigment contains in an amount of 1 to 10% ([0078]), and the pigment, which has an average of volume particle size of 0.05 to 0.3 micrometer ([0067]).

Koitabashi et al. differs from the claim of the present invention is that the pretreatment liquid contains dipropylene glycol monopropyl ether, and in the amount of 5 to 10% by weight.

Yatake teaches that to improve the penetration of the ink and prevent the clogging of the nozzle, the pretreatment liquid contains same water-soluble solvent as the ink composition, which contains dipropylene glycol monopropyl ether in the amount of 5 to 10% by weight (column: 5, line: 1-26; column: 12, line: 35-45).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the pretreatment liquid of Koitabashi et al. by the aforementioned teaching of Yatake in order to improve the penetration of the ink and prevent the clogging of the nozzle, which gives high quality printed image.

8. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koitabashi et al. (# US 2002/0044185 A1) in view of Yatake (# US 5746818) as applied to claims 2 & 11-12 above, and further in view of Kubota et al. (# US 6086197).

Koitabashi et al. and Yatake discloses all the limitation of the image recording method except that the resin microparticles are a resin emulsion.

Kubota teaches that to inhibiting the penetration of the colorant, accelerating the fixation, and rubbing resistance printed image, the ink composition includes the pigment and resin emulsion (column: 7, line: 20-60) in an amount of 0.1 to 40% by weight (column: 8, line: 20-24) and has a particle size of 5 to 100 nm (column: 7, line: 35-38).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the pretreatment liquid of Koitabashi et al. as modified by the aforementioned teaching of Kubota in order to inhibiting the penetration of the colorant, accelerating the fixation, and rubbing resistance printed image.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koitabashi et al. (# US 2002/0044185 A1) in view of Yatake (# US 5746818) as applied to claims 2 & 11-12 above, and further in view of Koitabashi et al. (# US 6582047).

Koitabashi et al. (185) and Yatake discloses all the limitation of the image recording method except that the medium is a cloth.

Koitabashi et al. (047) teaches that the to get the excellent ink absorption printing medium in image forming method, the print medium is selected from paper, synthetic paper, cloth and non-woven cloth (column: 6, line: 1-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing medium of Koitabashi et al. (185) by the aforementioned teaching of Koitabashi et al. (047) in order to excellent ink absorption printing medium, which gives high quality printed image.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2853

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Manish S. Shah
Primary Examiner
Art Unit 2853

MSS

12/5/05